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The multiple responsibilities of and within organizations:

An interpretation of the structure of W. Edwards Deming's Quality system including the correlation of personality roles with Quality "points"

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Abstract

The relational logic, of Quality systems, encompasses a greater domain than commonly appreciated. The explicit model, underpinning Quality, shows systemic interrelationships that exist among Dr. Deming's points, enabling the correlation of Quality systems with structurally parallel personality types. This facilitates training and increases employee satisfaction. The confusions, between processes and systems as well as between jobs and roles, are examined as obstacles to understanding and applying Quality. This paper raises two important issues: 1) the articulation of a refined model for Quality and 2) descriptions of the eight essential Quality frameworks, embedded in all Quality systems, and their respective stakeholders.

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1. Introduction

In the spirit of Dr. Deming's work the author has been searching for a practical approach to a new relational logic that recognizes the struggle between certainty and uncertainty, yet allows these two conflicting realities to inform each other in an intermittent interplay with each other. Like climbing a ladder, first with the right foot of certainty to secure a position of understanding and certainty, then with the left foot of uncertainty to explore where one may next find a secure foothold for the next, new and higher advance of certain knowledge.

The context of this work is to understand Dr. W. Edwards Deming's Quality system ideas as pointing to a solution to the philosophical paradoxes raised by physicist, Ludwig Boltzmann in statistical mechanics, plus mathematicians and logicians, Georg Cantor in exploring infinity, Kurt Godel in the limits of logical certainty and Alan Turing in computability. Dr. Deming's Quality system is a practical

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solution to the deep philosophical ambiguities in nature uncovered by the in-depth thinking of the above scientists. By linking intuitive personality with the Quality method it is possible to understand Quality systems as a human achievement in an ever-advancing mastery over nature for cultural benefit.

2. Key issues

This paper is a preview of the author's book that takes a fresh look at Dr. Deming's version of Quality systems. The work is written with the practitioner and business student in mind. The refinement of Quality systems introduced in *The Multiple Responsibilities of and within Organizations: An Interpretation of the Structure of W. Edwards Deming's Quality System including the correlation of personality roles with Quality "points"* takes a look at the current difficulties that are preventing Quality systems from developing further as an organizational system. The primary issues addressed in the book include:

- **Mind-set:** There is an over-emphasis in current Quality practices on process oriented perspectives. Analytical methods are over-used at the expense of synthetic methods. A consequence of analytic methods is to focus on the parts; Synthetic methods focus on the whole.
- **Appreciation of Psychology:** The need for systemic understanding of the personalities of employees and how personalities affect the performance of roles that are assumed within a Quality organization.
- **Relational Logic of Quality:** The need for an understanding of Dr. Deming's points as a logically rigorous relational system that comprehensively addresses management issues as thoroughly as production issues have been addressed to date.
- **Map of Quality System Roles:** There is a need to understand the simplified frameworks for Quality that highlight the range of stakeholders who are interested in, and benefit from, different functional aspects of any organization.

2.1 Mind-set

Although Dr. Deming worked as a consultant to specific companies, the larger message of his career was addressed to the nature of valid work and its impact on large-scale economic systems. So while Dr. Deming says to continually improve, which tends to reduce the need for labor, he also says to seek the genuinely new, which creates new products and services for re-employing those who are no longer needed to manufacture mature parts. This is the deadly disease that Dr. Deming warned - emphasis upon short-term profits. It is the lack of reinvestment in future products that causes the lack of job security, not technological improvements. How is it possible to work diligently on improvement and not result in more automated technology? The goal isn't for a worker to keep making the identical parts until her/his dying day, but rather to be ever advancing to create more benefit and wealth for humanity as a whole. When a worker can say that s/he participated in creating a technology, or production facility, that no longer needs her/his input, that should be the basis of pride of workmanship for having created a continuing benefit to society. The reward for such accomplishment should not be unemployment but an opportunity to create similar benefits around new opportunities and remain employed to do so.

Dr. Deming in his concept of a System of Profound Knowledge (SoPK) said that it is important to have an appreciation of a system. It is possible to get off track by equating a "process" with a "system." Most people in manufacturing are regularly dealing with processes. However, to treat a process and a system as if they are the same entity, synonyms for each other, is to overlook the significant differences between them. A process always links components that have direct input-output links between sequential positions. If one removes one of the component links the process halts, unless a person can bridge the gap.

A system is qualitatively different. Systems are made up of components that do not have direct input-output links among them. For example, think of marketing and manufacturing. Both are sub-systems. A company may produce for a while without marketing, just as marketing may function for a while without

manufacturing. The indirect harm from one or the other ceasing to function will be felt by the other, but only indirectly over time. The difference between direct and indirect influence is a critical difference between processes and systems. Processes may be analyzed; systems must be synthetically integrated.

All of Dr. Deming's points, point to separate and unique systems, (not processes) that are collectively required to function in parallel to create a robust enterprise system. Many organizations, probably most, do not employ every system that Dr. Deming described, but the robustness of their enterprise is in direct proportion to how many of Dr. Deming's "points" are effectively implemented.

On p. 50 of The New Economics (second ed.) Dr. Deming mentions networks, aims (purpose), need for management, cooperation among components, interrelationships; all terms as properties of systems. He does not mention “process,” nor is “process” listed in his index. It is not likely that this is an oversight. Dr. Deming did not consider systems and processes synonymous. For example, processes do not need cooperation between components because the relationships are fixed, and so cooperation is relatively unnecessary. It is the changing nature of relationships in a system that requires cooperation. Systems have more freedom of motion and so require cooperation to focus their energies. So, if systems have a wider range of choice for response at each transition, how can these choices be best managed?

2.2 Appreciation of Psychology

Dr. Deming emphasized that each person should be treated as an individual with unique skills, interests, and life circumstances. However, Quality systems only specify the systemic relationships among organizational functions and have relatively ignored any systemic understanding of variation among employees. There are various rationalizations that justify this oversight. Many Quality people say, “One doesn't need to be an expert in every aspect of SoPK, but simply be aware of the impact of other factors.” While this may be true for an individual employee, it is disastrous for an organization to assume this position. The system must be aware of itself, and this is accomplished by positioning specific individuals so that their collective wisdom captures all aspects of the system, even though each individual may not comprehend the entire system.

The question this raises is how is it possible to position individuals properly within an organization so that the collective awareness is robust? Awareness of personality types that are carefully correlated with Quality makes it possible to further sharpen the focus for productive organizations. This integration is a specific application of a SoPK that integrates psychology with the appreciation of a system, a theory of knowledge and variation. Knowing the appropriate roles of given personality types can clarify the needs and contributions of unique individual's working collectively. When unique personalities perform roles within a Quality system appropriate to their personality type, the individual derives joy from work and the organization becomes better informed about its situation, and so, is better able to clarify its priorities. It must be emphasized that this concept is not about assigning jobs based upon personality, but rather roles recognizing specialized perceptive abilities of all employees for comprehensively monitoring the effectiveness of ongoing operations. Jobs are tasks that are well defined and performed cyclically or repetitively. Roles are responsibilities to manage unexpected situations. Most people may be trained to perform most jobs, but only those with perceptive abilities aligned with their area of responsibility are able to fill specific roles. People who work and manage organizations are the eyes and ears of the organization. Without a way of acknowledging the uniquely accurate perceptions of individuals, this tremendous resource of human capacity degenerates into gossip and complaining.

The book (Lucatelli, F. J. (2012)) discusses, in depth, unique frameworks each composed of two complementary Quality roles. Each framework also integrates two distinct personality types. So, each framework is constructed from two of Dr. Deming's points and each point has a single corresponding personality type that best understands that particular point. Different personalities will naturally gravitate toward specific roles within their favored framework of the organization and consequently will be

sensitive to the needs and aspirations of the particular stakeholder associated with that framework. An individual may be competent in several roles. The ability to be clear about who the appropriate stakeholders are is critical to making sound decisions. It is possible for an individual to identify her or his unique capacities by reflecting upon which of Dr. Deming's points most resonates. Further in-depth identification of roles in critical applications may be determined by completing the Personality Insight™ (See Disclosure in References) assessment questionnaire and by receiving appropriate coaching.

Personality is not just a style difference, it represents differences in awareness of the environment and the capacity to perceive and understand specific ranges of conceptual and sensory experience.

In a 1995 conversation between Dr. Simon Shnol', a Russian biophysicist, and the author, Dr. Shnol' commented that human beings are the most sensitive instruments that we know, and consequently also the greatest amplifiers. His example was, if the word "run" were whispered into the ear of a runner, that very weak auditory signal would be perceived and could be translated into the physical exertion of running with no other input. This represents a huge amplification of energy, as Dr. Shnol' said. The author sees this as an analogy for an even greater amplification potential of the perception of weaker-yet signals that are specifically perceived by different personality types. For example, signals like the desires of their audience that performers can read, or a counselor who can intuit of the needs of a client, or a leader who unerringly senses the best organizational direction, are all signals that are imperceptible to most people but readily perceived by individuals gifted with appropriately focused sensibilities. Perceptions like these are so subtle, more so than the spoken word in Dr. Shnol's example, that most other personality types are usually not aware of the presence of subtler signals in the environment. The insight here is that the words whispered like "run" could actually be the output of a person sensing a subtle cue that running is needed!

Just speaking the word "run" amplifies by magnitudes the original signal perceived by a specific personality type. The amplification that Dr. Shnol' implied could represent an actual amplification at least twice as large as he imagined when the subtle awareness of the speaker is considered. This metaphor aims to call attention to the subtlety of personality differences that are most often beneath awareness. Different personalities in a common environment are more likely to notice different aspects of that environment than they are to notice similarities. Becoming aware of these natural differences between individuals can have a similar dramatic impact on the productive interaction of people, as does knowledge of physical variation have upon achieving finer tolerances in production processes.

2.3 Relational Logic of Quality

A common complaint about management from employees in production is that "management doesn't understand Quality." It is true that management doesn't understand Quality the way that those who operate the systems do. They shouldn't. Those operating the system must be sensitive to the flow of work and the uniqueness of each machine. However, that is not detail for managers to assimilate, nor is it a sensible way for a manager to behave. The manager must understand the general system so that changes made to the system don't deteriorate it. Managers (and executives) are responsible for the completeness of the system, not its operation. So, as circumstances change, which affects the relationship between components of the larger system, adjustments must be made at the systems level to facilitate operations at the production level. It is the management's role to understand and manage the complexity of the system so that operations can become as simple as possible. Managers manage systems; workers in production manage workflow. These two roles are essential complements to each other. If either fails, both fail.

2.4 Map of Quality System Roles

The book, that is in-progress as this paper is written, also details a theory of knowledge about the progressive hierarchy of systems. Quality is a new systems level that is based upon dynamic principles compared to historic systems that have been based upon static hierarchies. The success of a Quality

system, at its level, leads naturally to a future systems level systemically addressing “intention” or decision-making, which is beyond the scope of this discussion.

In a Quality system new frameworks appear as unique ways of interpreting the action of the overall system. These new frameworks, eight in all, are similar to the frameworks of science, art, religion and experience that are so important in the historical system preceding Quality. The new frameworks of Quality - and their respective stakeholders - are outlined in Table 1 and include: A) controlling variation - customers, B) developing futures - employees, C) teamworking - communities, D) aspiring - administration, E) optimizing - suppliers, F) fostering esprit de corps - shareholders, G) governing - society-at-large and H) safety - all-concerned. These necessary frameworks are mathematically/logically determined by the by the author's relational logic of systems, A-Priori Modal Analysis (APMA). The relational logic goes beyond mere combinatorial analysis by examining the qualitative significance of each element as well as its combination with other elements. Again, space does not allow this approach to relational logic to be specified here, but will be discussed at length in the book version of this paper.

3. Conclusion

It is important to understand that each independent framework of a Quality system comprehensively monitors the entire system through the interaction of a unique pair of complementary principles. Each organizational principle may also be interpreted personally as an organizational role or alternatively as a Quality system point. When the points and roles are paired properly within each framework, it is possible for each framework to provide a comprehensive, and unique, view of the entire system. Imagine two hikers in the wilderness, each one climbing a mountain on opposite sides of the same valley. When they both reach the summit of their respective mountains they each have a view of the common valley between them. However, if they were to meet after their respective hikes and compare their photographs of the valley, they may not recognize that their photos were of the same region! It is in the reconstruction of their common experience that a more comprehensive understanding of the valley dawns on each of the hikers. This is the nature of the pair of complementary principles and roles within each framework.

While processes may be found operating throughout a Quality system, it is the non-causally interrelated system frameworks that give Quality its most significant advantage over competing management and organizational approaches. Employees working within a Quality system derive the most productive benefit and personal satisfaction, by identifying with their appropriate role within the multiple frameworks of Quality systems. The rigorous integration of personality into a logically clear Quality organizational structure promises to reinvigorate the Quality system originally envisioned by Dr. W. Edwards Deming.

Nomenclature	
A	***Catch-Phrase**:* A summary attitude of being negatively influenced by a specific pair of Obstacles.
B	***Deadly Disease**:* A warning sign of the failure to succeed within a specific framework.
C	***Focal Affect**:* A personal experience of successfully operating a specific framework.
D	***Framework**:* A combination of two complementary points with their associated personality types.
E	***Management**:* A general term for employees responsible for organizational oversight functions.
F	***Obstacles**:* Attitudes that are used to resist the implementation of specific points of Quality.
G	***Personality Types**:* Personal modes that correlate one-to-one with points and obstacles.
H	***Points**:* Principles that Dr. Deming espoused for operating a successful Quality organization.
I	***Stakeholder**:* A targeted audience most served and benefited by a particular framework.
J	***Employee**:* A general term for all those employed or contracted by the organization.

K ***Worker****:* A general term for employees who initiate and execute the organization's production.

Table 1. Frameworks, corresponding Quality points & roles of personality types and stakeholders

Frameworks	**Worker Initiated Roles** Deming Pt #, Description Correlated Personality type	**Management Responsibilities** Deming Pt #, Description Correlated Personality type	**Stakeholders**
A: Controlling Variation	Pt. 1: Constancy of purpose Individual type	Pt. 11: Eliminate Work Standards Sustaining type	Customers
B: Developing Futures	Pt. 2: Seek genuinely new Pair type	Pt. 12: Institute self-improvement program Development type	Employees
C: Teamworking	Pt. 3: Build in Quality Group type	Pt. 13: Pride of workmanship Excellence type	Communities
D (AC): Aspiring	Pt. 4: Strive for single supplier Collective type	Pt. 14: Transformation is everybody's job Executive type	Administration
E (AC): Optimizing	Pt. 5: Continual improvement Specific type	Pt. 6: Institute on-the-job training General type	Suppliers
F (AB): Fostering esprit de corps	Pt. 7: Institute leadership Private type	Pt. 8: Drive out fear Public type	Shareholders
G (ABC): Governing	Pt. 9: Eliminate silos Participatory type	Pt. 10: Eliminate slogans Observational type	Society-at-Large
H (Null: WXYZ) Safety	Pt. 15: Deming's Quality system All/ Even-tempered type	Pt. 0/16: Not Quality systems Null type	All-concerned

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References (A complete listing of references is available in the forthcoming book.)

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